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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/790,118

03/02/2004

Minoru Urabe

1614.1391

1154

21171 7590 02/03/2009
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EXAMINER

MIRZA, ADNAN M

ART UNIT

PAPER NUMBER

2445

MAIL DATE

DELIVERY MODE

02/03/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/790,118	Applicant(s) URABE, MINORU	
	Examiner ADNAN M. MIRZA	Art Unit 2445	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/07/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-2,5-9,12-20,23-29,32-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-9,12-20,23-29,32 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2,5-9,12-20,23-29,32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oe (U.S. 2006/0041614) and further in view of Mitsuoka et al (U.S. 2003/0154281).

As per claims 1,8,15,19,24,28 Oe disclosed an information processing method for sharing storage areas of respective storage apparatuses of a plurality of servers connected to a communication network there among, comprising the steps of: a) registering the storage areas of the respective storage apparatus of the plurality of servers in a management server; b) managing collectively in said management server the respective storage areas of the storage apparatuses of the respective servers thus registered using different storage area usage ways including at least one of the single usage way, an integrated usage way a multiplicate usage way and a divided usage way available at the same time (Page. 4, Paragraph. 0057); c) requesting allocation of the storage area of the storage apparatus thus managed; d) the management server allocating a predetermined one of the storage areas of the storage apparatuses collectively managed in response to the allocation request (Page. 2, Paragraph. 0017); e) requesting the management

server to mount the storage area of the storage apparatus thus allocated; f) the management server mounting the storage area of the storage apparatus allocated in said step d) in response to the mounting request, and transmitting mounting information which indicates this matter as a response (Page. 2, Paragraph. 0101);

However Oe did not disclose in detail g) requesting the server, to which said storage area thus mounted belongs, to access said storage area, according to said mounting information thus transmitted; and h) said server which thus receives the access request accessing the storage area of its own, and transmitting an accessing result as a response.

In the same field of endeavor Mitsuoka disclosed, “A storage system employs an interface controller that uses a block storage protocol via a network, and comprises means to switch interfaces. Accordingly, it is possible to confirm to accesses according to both normal network interface and block-storage interface. Further, since management information is managed in a centralized manner and since means for providing mutual reference and update is employed, it is possible to carry management from both interfaces with no difference. By enabling handling of logically different interfaces over a physically same medium, such as the equipment network costs in view of system equipment can be reduced. Further by integrating the storage management interface, management costs can also be reduced. By unifying the connection manner of the storage system by means of storage-access interface and the management interface, cost reduction in connection devices and improvement in connectivity with applications can be realized (Page. 4, Paragraph. 0072-0073)”

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated a storage system employs an interface controller that uses a block storage protocol via a network, and comprises means to switch interfaces. Accordingly, it is possible to confirm to accesses according to both normal network interface and block-storage interface. Further, since management information is managed in a centralized manner and since means for providing mutual reference and update is employed, it is possibly to carry management form both interfaces with no difference. By enabling handling of logically different interfaces over a physically same medium, such as the equipment network costs in view of system equipment can be reduced. Further by integrating the storage management interface, management costs can also be reduced. By unifying the connection manner of the storage system by means of storage-access interface and the management interface, cost reduction in connection devices and improvement in connectivity with applications can be realized as taught by Mitsuoka in the method and system of OE to carry the management and maintenance of the host computer can be carried out easily.

3. As per claims 2,9,16,20,25,29 Oe-Mitsuoka disclosed further comprising the steps of: i) requesting said management server to unmount the storage area once mounted in said step 1 f); and j) said management server unmounting said storage area in response to the unmounting request made in said step i) (Mitsuoka, Page. 4, Paragraph. 0052).

4. As per claims 5,12,23,32 Oe-Mitsuoka disclosed wherein: the collective management of the registered storage areas of the storage apparatuses in said management server is performed in said step b) in such a manner that the storage areas are managed as virtual storage areas logically (Mitsuoka, Page. 5, Paragraph. 0067).

5. As per claims 6,13,17,26 Oe-Mitsuoka disclosed wherein: the accessing operation in said step h) comprises at least an initialization operation, information writing operation, information reading operation, an information searching operation and an information deleting operation. (Mitsuoka, Page. 5, Paragraph. 0075)

6. As per claims 7,14,18,27 Oe-Mitsuoka disclosed wherein: said plurality of servers and respective storage apparatuses comprise direct attached storages respectively (Mitsuoka, Page. 5, Paragraph. 0077).

Response to Arguments

7. Applicant's arguments filed 11/07/2008 have been fully considered but they are not persuasive. Response to applicants argument are as follows.

A. Applicant argued that Oe's cache manager 42 and control apparatus 2 discussions are silent on any "storage use ways" that may be available or occur at a same time.

As to prior art OE disclosed, "The client apparatus according to the second aspect of the present invention can search for the information of the storage location from the cache area when making an access request for the data for which the storage area is managed by the control apparatus, and, can directly access the cache apparatus so as to have the relevant data transferred thereto without making an access request to the control apparatus from the information stored in the cache area. Further, when the access request is accompanied by writing processing, it is possible to achieve storage data consistency as in the above-described first aspect of the present invention by copying the data once written in the cache apparatus also to the storage apparatus (Page. 2, Paragraph. 0025)". One ordinary skill in the art at the time of the invention knows that storage use way is always available to store data. The data is also stored in two different storage spaces at the same time.

B. Applicant argued that Oe's cache manager and control apparatus discussions can meet the language of claims "different storage area usage ways available at a same time, including one or more of a single usage way an integrated usage way, a multiple usage way and/or a divided usage way".

As to applicant's argument Oe disclosed, "The control apparatus 2 carries out management as to which data is stored in which location in the storage apparatus 3 and in the cache apparatus 4 and

Art Unit: 2445

also, unitarily accepts an access request received from the client apparatus, and also unitarily accepts an access request received from the client apparatus for data stored in the storage apparatus or in some also in the cache apparatus in principle. Then when the relevant data is stored only in one of the storage apparatus and the cache apparatus, the cache apparatus 4, the control apparatus 3 and the cache apparatus 4, the control apparatus 2 requests the cache apparatus 3 to transfer the relevant data (Page. 3, Paragraph. 0050). One ordinary skill in the art at the time of the invention knows that Oe in the above paragraph stored the data in a multiple way since the claim language stated, "Including one or more of a single usage way an integrated, a multiple usage way" therefore having to select one of the usage way.

C. Applicant argued that a Prima facie case of obviousness based upon Oe and Mitsuoka cannot be established.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, as taught by Mitsuoka in the method and system of OE to carry the management and maintenance of the host computer can be carried out easily and also reduce latency.

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D. Applicant argued that prior art did not disclose, “registering a plurality of storage usage ways related to storage areas of respective servers in a management table of the management server; and managing the storage areas of respective servers using the registered plurality of storage areas of respective servers using the registered plurality of storage usage ways to share the storage areas among the respective servers”.

As to applicant argument Oe disclosed, “Each interface card includes a target channel adapter (TCA) functioning as a network controller, conversion and management part carrying out protocol conversion processing and disk area management processing and SCSI having a function of a disk controller. The conversion management part interprets a message received from the control apparatus (Page. 4, Paragraph. 0055). Where Mitsuoka disclosed, “management interface in the out-of-band mode, configuration information of storage system can be accessed via an SNMP service and/or JAVA RMI server incorporated as an OS application when accessed from the management terminal (Page. 3, Paragraph. 0042).

E. Applicant argued that Oe did not disclose the “collectively managing the respective storage area using different storage usage ways “.

As to applicants interpretation of the claim 1 the Prior art OE disclosed the present invention carries out management as to which data is stored in which location in the storage apparatus and

also in, in some case, in the cache apparatus, and also in some case, in the cache apparatus in principle (Page. 2, Paragraph. 0019).

Conclusion

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Adnan Mirza whose telephone number is (571)-272-3885.

11. The examiner can normally be reached on Monday to Friday during normal business hours. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

Art Unit: 2445

supervisor, Jason Cardone can be reached on (571)-272-3933. The fax for this group is (703)-746-7239. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866)-217-9197 (toll-free).

Adnan Mirza
/A. M. M./
Examiner, Art Unit 2445

/Larry D Donaghue/

Primary Examiner, Art Unit 2454